

Applicant : George P. Merrill et al.
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Amendments to the Claims:

Amend the claims as follows (this listing of claims replaces all prior listings):

1. (Currently amended) A method comprising:
determining at least one queue parameter for a first process running on a system; and
configuring using a queue management process separate from the first process to
configure one or more queues on a storage device in accordance with the at least one queue
parameter.
2. (Currently amended) The method of claim 1 wherein said configuring one or
more queues includes specifying a next read address indicative of the memory-a memory
location within the storage device from which the next queue object requested from the queue is
to be read.
3. (Currently amended) The method of claim 1 wherein said configuring one or
more queues includes specifying a next write address indicative of the memory-a memory
location within the storage device to which the next queue object provided to the queue is to be
written.
4. (Currently amended) The method of claim 1 wherein said configuring one or
more queues includes providing a queue status flag, which flag that is indicative of an
operational condition of one of the queues the queue.
5. (Original) The method of claim 1 wherein said configuring one or more queues
includes specifying a starting address for the queue.

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6. (Original) The method of claim 1 wherein the at least one queue parameter includes a queue depth parameter and said configuring one or more queues includes configuring the queue in accordance with the queue depth parameter.

7. (Original) The method of claim 1 wherein the at least one queue parameter includes a queue entry size parameter and said configuring one or more queues includes configuring the queue in accordance with the queue entry size parameter.

8. (Currently amended) A system comprising:
a host processor ~~configured~~ to determine at least one queue parameter for a first process running on said system;
a storage device; and
a queue management process ~~configured~~ separate from the first process to configure one or more queues on said storage device in accordance with said at least one queue parameter.

9. (Currently amended) The system of claim 8 wherein said queue management process includes a read pointer process for each queue configured by said queue management process, wherein said read pointer process ~~is configured to specify~~ specifies a next read address indicative of the memory a memory location within said storage device from which the next queue object requested from said queue is to be read.

10. (Currently amended) The system of claim 8 wherein said queue management process includes a write pointer process for each queue configured by said queue management process, wherein said write pointer process ~~is configured to specify~~ specifies a next write address indicative of the memory a memory location within said storage device to which the next queue object provided to said queue is to be written.

11. (Original) The system of claim 8 further comprising at least one slave processor.

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12. (Original) The system of claim 11 wherein said slave processor comprises a programmable state machine.

13. (Original) The system of claim 11 further comprising a data bus for connecting said host and slave processors, wherein said data bus transfers queue objects between said processors.

14. (Original) The system of claim 11 further comprising a flag bus for connecting said host and slave processors.

15. (Original) The system of claim 14 wherein said queue management process includes a queue status monitoring process for each queue configured by said queue management process, wherein said queue status monitoring process provides a queue status flag, which is indicative of an operational condition of said queue, on said flag bus.

16. (Currently amended) The system of claim 15 wherein said queue status flag is configured to indicate indicates at least one of:

- an underflow queue condition;
- an empty queue condition;
- a nearly empty queue condition;
- a nearly full queue condition;
- a full queue condition; and
- an overflow queue condition.

17. (Original) The system of claim 8 wherein said queue management process includes a queue base address process for each queue configured by said queue management process, wherein said queue base address process specifies a starting address for said queue.

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18. (Original) The system of claim 8 wherein said at least one queue parameter includes a queue depth parameter and said queue management process includes a queue depth specification process for each queue configured by said queue management process, wherein said queue depth specification process configures said queue in accordance with said queue depth parameter.

19. (Original) The system of claim 8 wherein said at least one queue parameter includes a queue entry size parameter and said queue management process includes a queue entry size specification process for each queue configured by said queue management process, wherein said queue entry size specification process configures said queue in accordance with said queue entry size parameter.

20. (Original) The system of claim 8 wherein said storage device comprises an SRAM storage device.

21. (Original) The system of claim 8 wherein said one or more queues temporarily store queue objects and said queue objects include at least one of:

a data packet; and
a system command.

22. (Currently amended) A computer program product residing on a computer readable medium having instructions stored thereon that, when executed by the processor, cause that processor to:

determine at least one queue parameter for a first process running on a system; and
use a queue management process separate from the first process to configure one or more queues on a storage device in accordance with the at least one queue parameter.

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23. (Original) The computer program product of claim 22 wherein said computer readable medium comprises a read-only memory.

24. (Original) The computer program product of claim 22 wherein said computer readable medium comprises a hard disk drive.

25. (Original) A queue management process for configuring one or more queues, comprising:

a queue base address process for specifying a starting address for each of said one or more queues required by a process running on a system; and

a queue depth specification process for configuring each said queue in accordance with a queue depth parameter provided by said process running on said system.

26. (Original) The queue management process of claim 25 further comprising:

a queue entry size specification process for configuring each said queue in accordance with a queue entry size parameter provided by said process running on said system.

27. (Original) A queue management process for configuring one or more queues, comprising:

a queue base address process for specifying a starting address for each of said one or more queues required by a process running on a system; and

a queue entry size specification process for configuring each said queue in accordance with a queue entry size parameter provided by said process running on said system.

28. (Original) The queue management process of claim 27 further comprising:

a queue depth specification process for configuring each said queue in accordance with a queue depth parameter provided by said process running on said system.

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29. (Original) A queue management process for configuring one or more queues, comprising:

a queue base address process for specifying a starting address for each of said one or more queues required by a process running on a system; and

a queue status monitoring process for providing, for each said queue, a queue status flag that is indicative of the operational condition of said queue.

30. (Original) The queue management process of claim 29 wherein said queue status flag is configured to indicate at least one of:

- an underflow queue condition;
- an empty queue condition;
- a nearly empty queue condition;
- a nearly full queue condition;
- a full queue condition; and
- an overflow queue condition.

31. (Currently amended) Circuitry to determine at least one queue parameter for a first process to be run on a system, said at least one queue parameter to be used to configure one or more queues, said circuitry comprising:

- a host processor;
- a storage device; and

a queue management process separate from the first process to configure said one or more queues on said storage device in accordance with said at least one queue parameter.

32. (Currently amended) The circuitry of claim 31 wherein said queue management process includes a read pointer process for each queue configured by said queue management process, wherein said read pointer process is configured to specify a next read address indicative of the memory-a memory location within said storage device from which the next queue object requested from said queue is to be read.

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33. (Currently amended) The circuitry of claim 31 wherein said queue management process includes a write pointer process for each queue configured by said queue management process, wherein said write pointer process is configured to specify a next write address indicative of the memory-a memory location within said storage device to which the next queue object provided to said queue is to be written.

34. (Original) The circuitry of claim 31 further comprising a host processor and at least one slave processor.

35. (Original) The circuitry of claim 34 further comprising a data bus for connecting said host and slave processors, wherein said data bus transfers queue objects between said processors.

36. (Original) The circuitry of claim 34 further comprising a flag bus for connecting said host and slave processors.

37. (Original) The circuitry of claim 36 wherein said queue management process includes a queue status monitoring process for each queue configured by said queue management process, wherein said queue status monitoring process provides a queue status flag, which is indicative of an operational condition of said queue, on said flag bus.

38. (Original) The circuitry of claim 31 wherein said queue management process includes a queue base address process for each queue configured by said queue management process, wherein said queue base address process specifies a starting address for said queue.

39. (Original) The circuitry of claim 31 wherein said at least one queue parameter includes a queue depth parameter and said queue management process includes a queue depth specification process for each queue configured by said queue management process, wherein said queue depth specification process configures said queue in accordance with said queue depth parameter.

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40. (Original) The circuitry of claim 31 wherein said at least one queue parameter includes a queue entry size parameter and said queue management process includes a queue entry size specification process for each queue configured by said queue management process, wherein said queue entry size specification process configures said queue in accordance with said queue entry size parameter.